9. Layla

Program Name: Layla.java   **Input File: layla.dat**

Layla is considering a thought experiment in measurement systems, different than metric or the traditional English system, perhaps ones that remote civilizations, or even aliens on different worlds might develop. She wants to allow for three levels of measure, like meters, kilometers, and centimeters, all members of the metric system. Just as it takes 100 centimeters to make a meter, and 1000 meters to make a kilometer, she wants to consider other systems with other conversion values.

For purposes of consistency, she decides to label the three units of measure as A, B and C, and then express the conversions as follows: B = xA and C = yB, where x and y are real values greater than 1.

In the metric system, A, B and C would be centimeters, meters and kilometers, and x and y would be 100 and 1000. To express 5 meters in terms of centimeters and kilometers, she would mathematically convert them using the values of 100 and 1000, resulting in 500 A units (centimeters), and 0.005 C units (kilometers). In her experiment, A will always be the smallest unit and C the largest.

In one possible random system, the values of x and y might be 16 and 7, which would mean that B = 16A, and C = 7B. She then would take a value, express it in one measure, and then convert it into equivalent values in the other two measures. 17 units of B would convert into 272 A units and 2.429 C units. Three C units in the same system would be equivalent to 336 A units and 21 B units.

Input: Several sets of data, each on one line, consisting of two integer values **x** and **y**, a value **d**, and a character **c**, all with single space separation.

Output: The equivalent values in all three units, A, B and C, for the given data set, rounded to three places of precision, and output as shown below. Print a final "**=====**" line below each complete output.

Sample input:
```
100 1000 5 B
16 7 17 B
16 7 3 C
10 6 4.25 A
```

Sample output:
```
A = 500.000
B = 5.000
C = 0.005
=====
```

```
A = 272.000
B = 17.000
C = 2.429
=====
A = 336.000
B = 21.000
C = 3.000
=====
A = 4.250
B = 0.425
C = 0.071
=====
```